

**SONY**

3-754-503-14 (1)

# Videocassette Recorder

Model:

**SVO-9500MDP**

## **Operating Instructions page 5**

Before operating the unit, please read this manual thoroughly and retain it for future reference.

## **Mode d'emploi page 47**

Avant la mise en service de cet appareil, prière de lire attentivement ce mode d'emploi que l'on conservera pour toute référence ultérieure.

## **Bedienungsanleitung Seite 89**

Vor der Inbetriebnahme lesen Sie diese Anleitung sorgfältig durch und bewahren Sie sie zum späteren Nachschlagen auf.

## **Istruzioni per l'uso Pagina 133**

Prima di usare l'apparecchio, leggere con attenzione questo manuale e conservarlo per riferimenti futuri.



VHS  
PAL

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# General

## **High reliability**

Two direct reel motors are employed. A material of high hardness is used for the lower drum to prolong service life. In addition, the beltless mechanism gives high reliability.

## **Built-in chroma noise reducer**

The digital chroma noise reducer yields life-like color reproduction. The recorder also has jitter elimination functions for stable pictures on playback.

## **Hi-fi audio recording**

Frequency-modulated hi-fi audio can be recorded on the video track of a tape while simultaneously recording normal audio on the audio tracks. In playback, either normal audio or hi-fi audio can be selected.

## **Four-channel audio**

Recording and playback of two channels each of normal audio and hi-fi audio, four channels in total, are possible.

## **Instantaneous recording from long-pause mode**

Recording can be instantly resumed even when the recorder is in long-pause mode, so a chance to start recording will not be missed.

## **Automatic control of video recording level**

The automatic gain control (AGC) circuit maintains the proper video level assuring optimum video recording.

## **Programmed operation**

Programmed operation allows you to locate specified points on a tape in search mode and also to automatically repeat a desired portion.

## **Loop-through output**

A video input signal connected to one of the VIDEO IN connectors is directly output from the other VIDEO IN connector. Pictures are displayed on a monitor connected to it, therefore, with good resolution even in modes other than playback, and you can record pictures while viewing them on the monitor.

## **LED time counter**

The time counter reads out the CTL signals recorded on a tape and indicates the tape running time in hours, minutes and seconds. This is useful for checking recording time as well.

## **Search function**

Search in the forward and reverse directions can be performed at 5 times normal speed. When the search dial of an SVRM-100 remote control unit (optional) is used, the picture can be viewed on playback at various speeds from  $\frac{1}{10}$  times to 10 times normal speed as well as in still mode.

**Index search**

When the SVRM-100 remote control unit (optional) is used, desired points on a tape can be easily located by marking an index signal at these points in advance.

**Blank search**

The blank search function automatically finds an unrecorded portion on a tape. It may be helpful in locating the starting point of recording.

**Frame memory and freeze functions**

Pictures can be stored frame by frame in memory, using the frame memory function, and a noiseless still picture can be obtained with the freeze function. For a still picture, either a frame or a field picture can be selected with the touch of a button.

**Menu operation function**

The menu operation function permits various operational requirements for the recorder to be easily designated, using the buttons on the front panel.

**Automatic tape eject at the end**

When recording reaches the end of a tape, the recorder automatically ejects the tape. This avoids inadvertent overrecording which erases valuable data. This automatic tape eject can be inhibited through a menu operation.

**Tape remaining time indication**

A rough estimate of the amount of recording on a tape is displayed.

The remaining time of a tape can also be checked on the SVAC-100 indicator unit (optional).

# Precautions

## On safety

- Operate the unit only with a power source specified in the "Specifications" on page 42.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

## On installation

- Allow adequate air circulation to prevent internal heat buildup. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation slots.
- Do not install the unit near a heat source such as a radiator or an air duct, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Never operate the unit in a vertical position.
- Keep the unit away from equipment with strong magnets as for example a large loudspeaker.

## On operation

- When the unit is not in use, turn the power off.
- Remove and store video cassettes after recording or playback.
- Never operate the unit right after having transported it from a cold location directly to a warm location.

## On cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth lightly moistened with mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

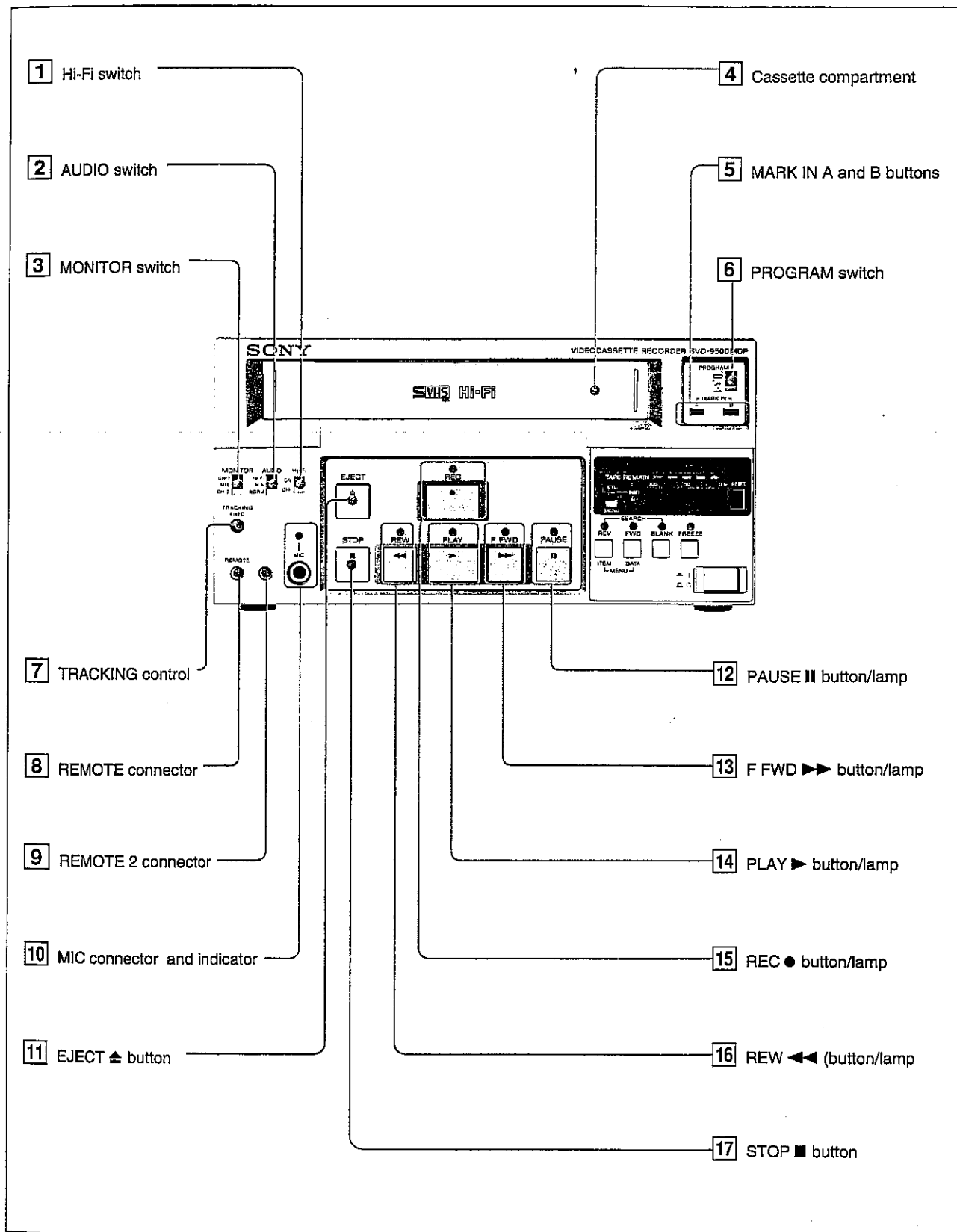
## On transportation

- Remove the video cassette when transporting the unit.
- Save the original carton and associated packing material. They will be useful should you have to transport or ship the unit.

If you have any questions about this unit, contact your Sony dealer.

# Parts Identification

## Front Panel



## Parts Identification (continued)

### 1 Hi-Fi switch

Determines whether to record hi-fi audio.

- Normal audio is constantly recorded regardless of this switch setting.

<b>ON</b>	Record hi-fi audio.
<b>OFF</b>	Do not record hi-fi audio.

### 2 AUDIO switch

Selects the signal to be output from the AUDIO OUT CH-1/L and CH-2/R connectors on the rear panel.

Connector	AUDIO OUT CH-1/L	AUDIO OUT CH-2/R
<b>HI-FI</b>	Hi-fi audio channel 1	Hi-fi audio channel 2
<b>MIX</b>	Both hi-fi audio channels 1 and 2	Both normal audio channels 1 and 2
<b>NORM</b>	Normal audio channel 1	Normal audio channel 2

### 3 MONITOR switch

Selects the audio signal to be output from the MONITOR OUT connector on the rear panel. This switch is enabled for the signals selected with the AUDIO switch **2**.

<b>CH-1</b>	Channel-1 audio
<b>MIX</b>	Both channel-1 and -2 audio
<b>CH-2</b>	Channel-2 audio



- For details, see "To Monitor the Sound Being Recorded" (page 24).

### 4 Cassette compartment

### 5 MARK IN A and B buttons

Press to memorize the time counter value at that time. You can memorize only one point on each button. If the button is pressed several times, only the last point will be memorized.

### 6 PROGRAM switch

	For repeatedly playing a particular portion or checking the points memorized on the MARK IN A and B buttons.
<b>OFF</b>	For normal operation without using any programmed operation. (When the unit is to be controlled from a remote control unit connected to the REMOTE connector, be sure to set the switch to OFF.) Or for memorizing points on the MARK IN A and B buttons for programmed operation.
	For locating a point memorized on the MARK IN A button. Or for memorizing points on the MARK IN A and B buttons for programmed operation. If no point has been memorized, the tape stops at the point indicated by "0:00:00" on the time counter.

### 7 TRACKING control

Normally set the control at the center **FIXED** position. Should noise, snow or streaks appear in a playback picture recorded on another machine, turn this control so that the best possible picture is obtained.

When the recorder is in slow mode, slow-tracking control can be performed. If noise, snow or streaks appear in pause mode, or in step-slow playback using an external controller; connected via an interface board (optional), or the SVRM-100 remote control unit (optional) turn this control for the optimum picture. When resuming normal playback, return this control to the original position.

- Do not move the control from the center **FIXED** position while recording.

### 8 REMOTE connector (stereo mini jack)

Accepts an optional SVRM-100 remote control unit. Recording, playback, fast forward, rewind, search (with 5-times normal speed) using the search dial and index operations can be remotely controlled.

**9 REMOTE 2 connector  
(stereo mini jack)**

Accepts an optional RM-81 or RM-91 remote control unit. Recording start/stop operations can be remotely controlled.

**10 MIC (microphone) connector  
(phone jack) and indicator**

Connect a microphone to record an external audio, which will be recorded on normal audio channel 1. During recording from the microphone, the indicator above the MIC connector blinks according to the sound level.

**11 EJECT ▲ button**

Press to eject a video cassette.

**12 PAUSE II button/lamp**

Press to stop the tape momentarily.

**13 F FWD ►► (fast forward) button/lamp**

Press to advance the tape rapidly.

**14 PLAY ► (playback) button/lamp**

Press to play the tape back. Pressing this button while pressing the REC ● button **15** sets the unit in record mode.

**15 REC ● (recording) button/lamp**

For recording, press the PLAY ► button **14** while pressing this button.

**16 REW ◄◄ (rewind) button/lamp**

Press to rewind the tape.

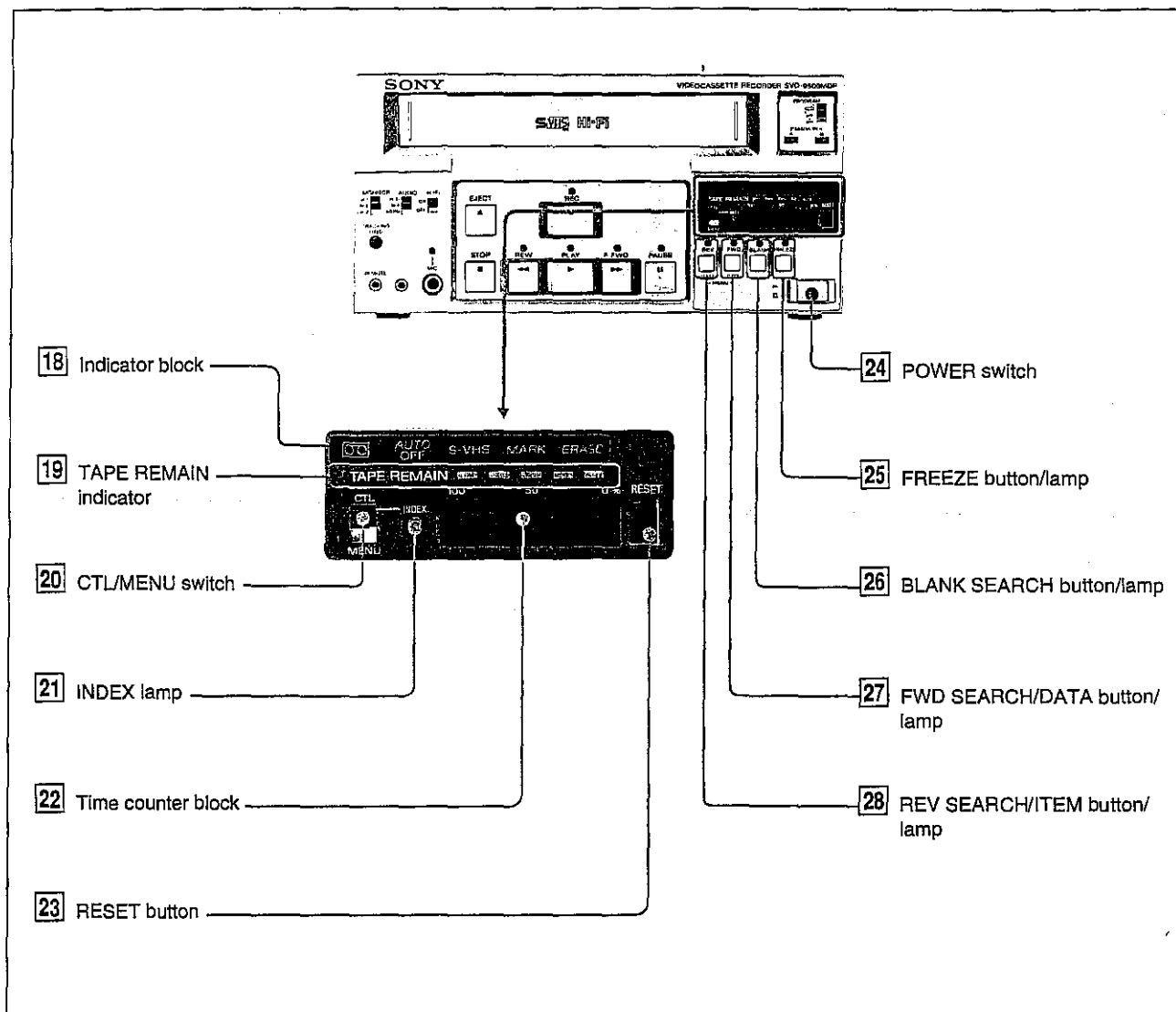
**17 STOP ■ button**

Press to stop the operation of the unit.



## Parts Identification (continued)

### Front Panel (continued)



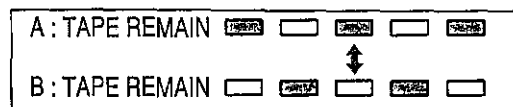
#### 18 Indicator block

	Lights when a cassette is set in the unit.
<b>AUTO OFF</b>	Lights when the power is applied and there is moisture inside the unit. While this indicator is lit, no cassette can be loaded in the unit.
<b>S-VHS</b>	Lights when recording or playing in S-VHS.
<b>MARK</b>	Blinks when marking an index signal using the SVRM-100 remote control unit.
<b>ERASE</b>	Blinks when erasing an index signal using the SVRM-100 remote control unit.

#### 19 TAPE REMAIN indicator

Shows the amount of recording on a tape in percent.

While measuring the tape remain, the indicator alternately shows the following two indications.



#### Note

The remaining tape cannot be correctly indicated, depending on the length of the tape being used.

## **[20] CTL/MENU switch**

Selects data to be displayed on the time counter block [22].

<b>CTL</b>	To count CTL signals on the tape and display the tape transport time in hours, minutes and seconds.
<b>MENU</b>	To go to menu mode and display the items and the respective settings. Other operations cannot be performed in menu mode.

## **[21] INDEX lamp**

Lights during index scan and index search operations.

## **[22] Time counter block**

Displays data selected with the CTL/MENU switch [20].

## **[23] RESET button**

With the CTL/MENU switch [20] set to CTL and the tape transport time of the tape displayed on the time counter block [22], the indication will be set to "0:00:00" when this button is pressed.

## **[24] POWER switch**

## **[25] FREEZE button/lamp**

Press to display a freeze picture on the monitor screen. Each time the button is pressed, frame-freeze picture, first-field freeze picture and second-field freeze picture are selected in the sequence.

## **[26] BLANK SEARCH button/lamp**

Press to search for a unrecorded portion on a tape.

## **[27] FWD (forward) SEARCH/DATA button/lamp**

Press for a search operation in the forward direction.

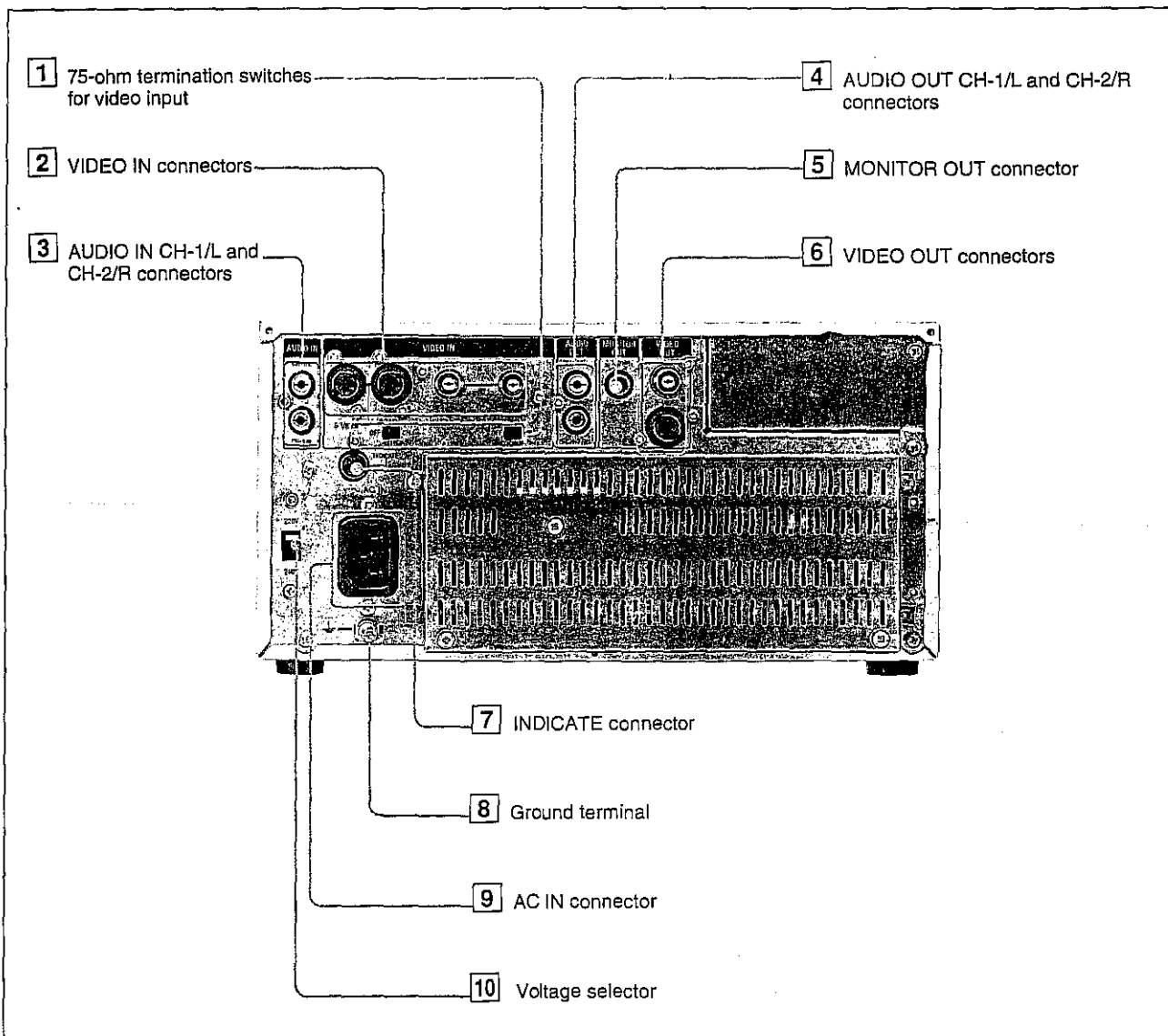
In menu operations (with the CTL/MENU switch [20] set to MENU), press this button to select the datum to be set for the selected item.

## **[28] REV (reverse) SEARCH/ITEM button/lamp**

Press for a search operation in the reverse direction.

In menu operations (with the CTL/MENU switch [20] set to MENU), press this button to select the item to be set.

## Rear Panel



### **1** 75-ohm termination switches for video input

Use to terminate the video signal supplied to the VIDEO IN connectors. The left switch is for the S connectors and the right switch is for the BNC-type connectors.

<b>ON</b>	When no bridge connection is required. Or, when the unit is used as the last unit of a bridge connection.
<b>OFF</b>	For a bridge connection (using one of the VIDEO IN connectors for loop-through output).

### **2** VIDEO IN (input) connectors (S type/BNC type)

The left two connectors are S connectors and the right two connectors are BNC connectors for composite signals.

Bridge connection is also allowed. **For the bridge connection, set the respective 75-ohm termination switches **1** for the video input of the units other than the last unit of the connection to OFF.**

**3 AUDIO IN (input) CH-1/L (channel 1/left) and CH-2/R (channel 2/right) connectors (phono jacks)**

**4 AUDIO OUT (output) CH-1/L (channel 1/left) and CH-2/R (channel 2/right) connectors (phono jacks)**

The audio signal selected at the AUDIO switch on the front panel is supplied here.

**5 MONITOR OUT (audio monitor output) connector (phono jack)**

The audio signal selected at the MONITOR switch on the front panel is supplied here.

**6 VIDEO OUT (output) connectors (BNC type/S type)**

The upper connector is a BNC-type connector for normal composite signals and the lower connector is an S connector.

**7 INDICATE connector (8-pin)**

Accepts the SVAC-100 indicator unit (optional).

**8 Ground terminal**

When the recorder cabinet is to be grounded, connect a ground wire here.

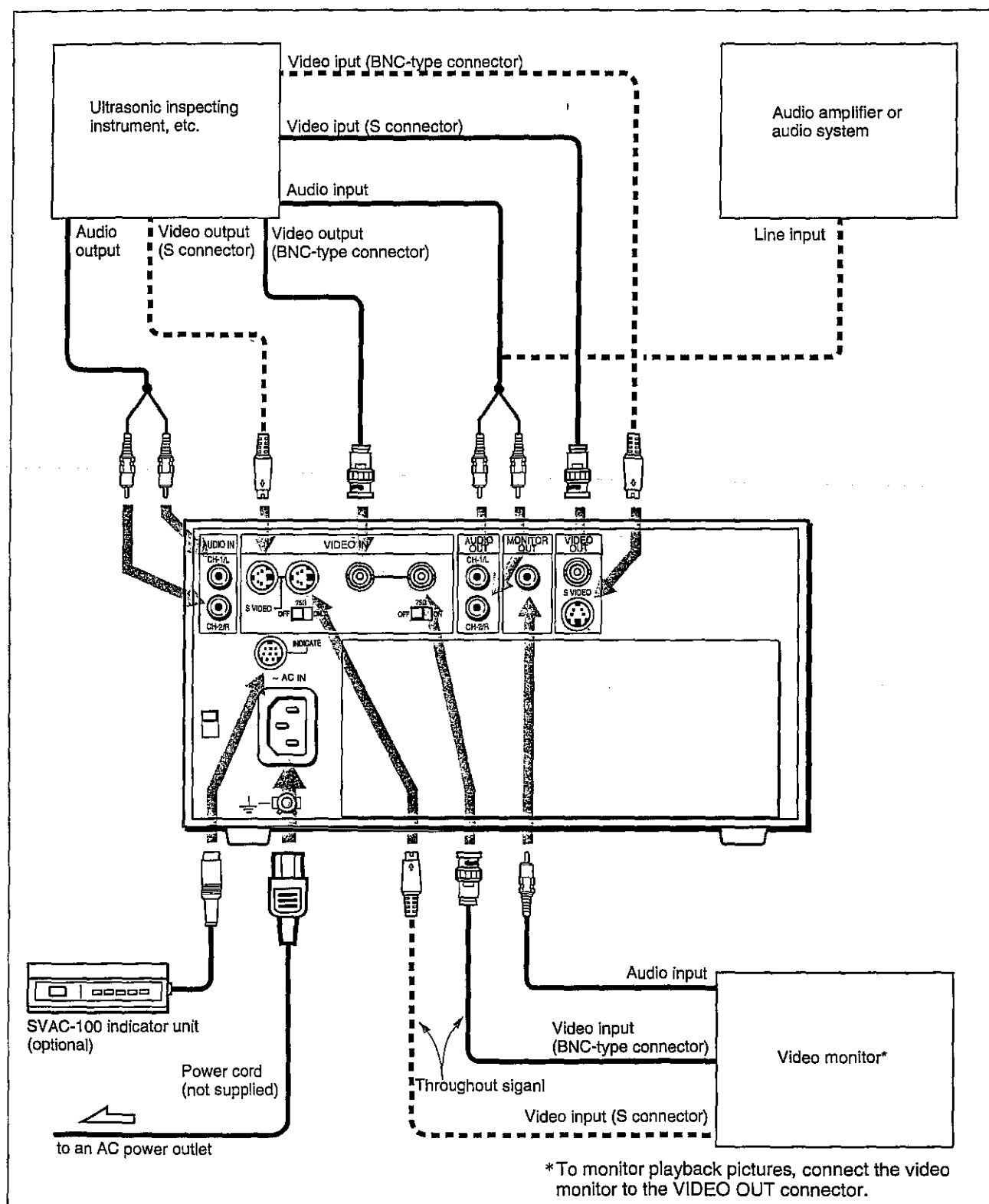
**9 AC IN (input) connector**

Connect to an AC power outlet using the supplied power cord.

**10 Voltage selector**

Use to select the operating voltage of the SVO-9500MDP, 220 V or 240 V, according to your local power supply.

# Connections



## Notes

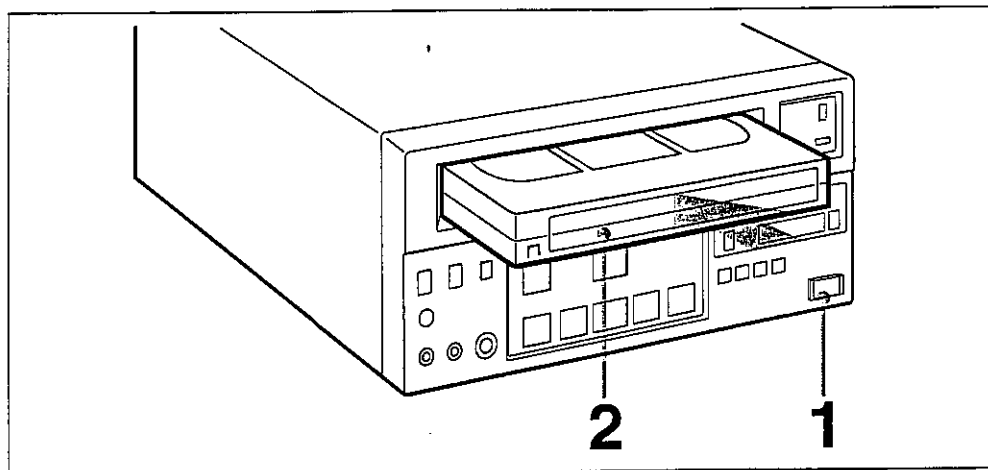
- When a microphone is connected in normal recording, the signal connected to the AUDIO IN CH-1/L connector on the rear is automatically switched to the signal from the microphone. In hi-fi recording, the signal from the AUDIO IN CH-1/L connector is recorded.
- Set the 75-ohm termination switches according to the description on the previous page 14.

## Selecting the Operating Voltage

Before connecting the SVO-9500MDP to the power source, be sure to check the operating voltage of this unit is appropriate to your local power line. The operating voltage can be changed by setting the voltage selector to the appropriate position. If voltage change is necessary, please contact your Sony dealer.

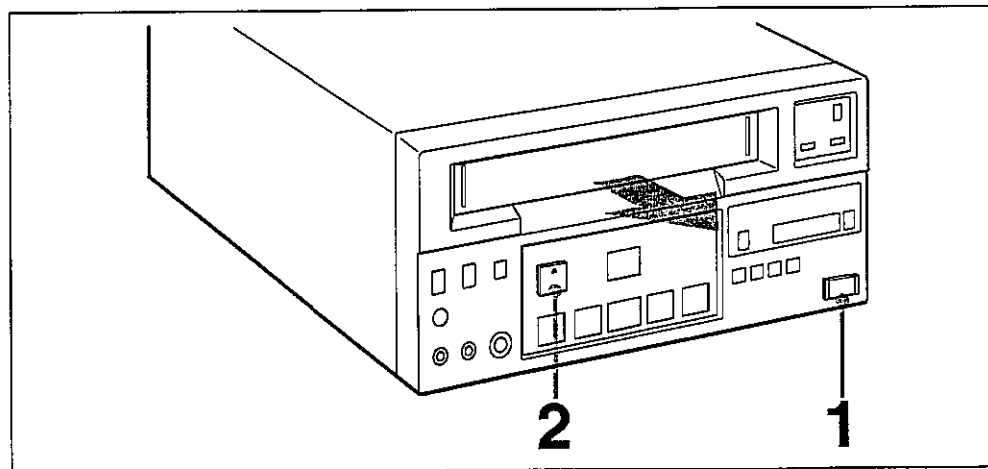
# On Video Cassettes

## To Insert a Cassette



- 1 Turn the power on.
- 2 Fully insert the cassette into the cassette compartment. The cassette is automatically pulled into the operating position.

## To Remove a Cassette



- 1 Make sure that the power is on.
- 2 Press the EJECT button.

### Caution

Do not put your hand into the cassette compartment when removing a cassette.

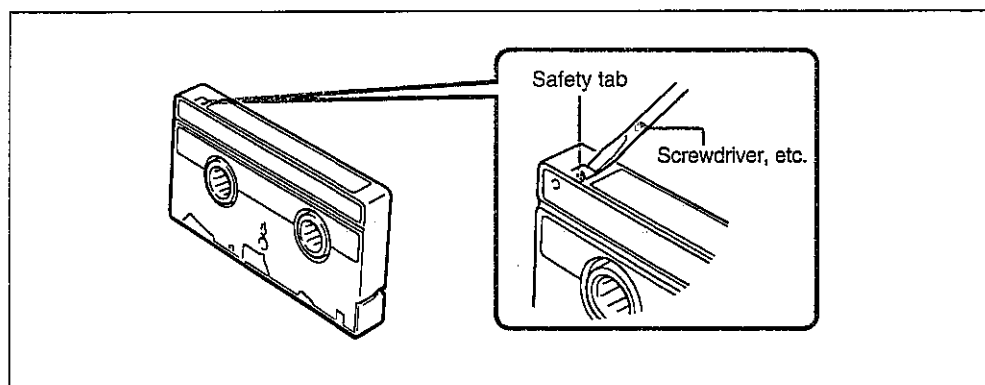
## Notes on Cassettes

### Notes on cassette insertion

- Be sure to insert the cassette straight into the entrance of the compartment.
- Check the cassette sides and be sure to insert the cassette correctly **with the label side up**.
- The labels on the cassette should be firmly attached. If they peel off an inserted cassette, you might not be able to remove the cassette.

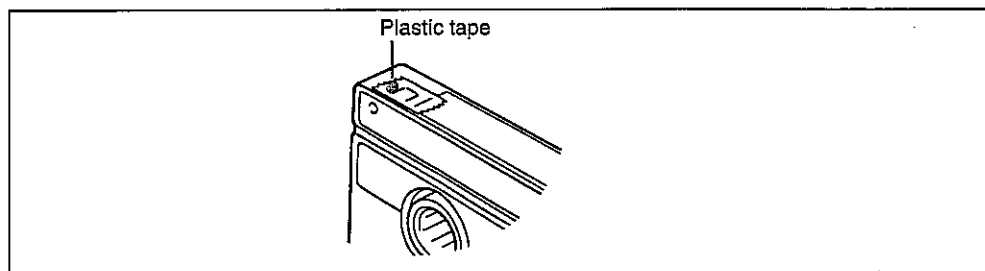
### About the safety tab

When re-recording on a recorded tape, the pre-recorded material will be automatically erased. To avoid unintentional erasure of previously recorded video sources, break off the safety tab on the cassette. With the tab removed, recording mode cannot be activated.



#### To re-record on the cassette

Cover the slot where the safety tab used to be located with plastic tape.



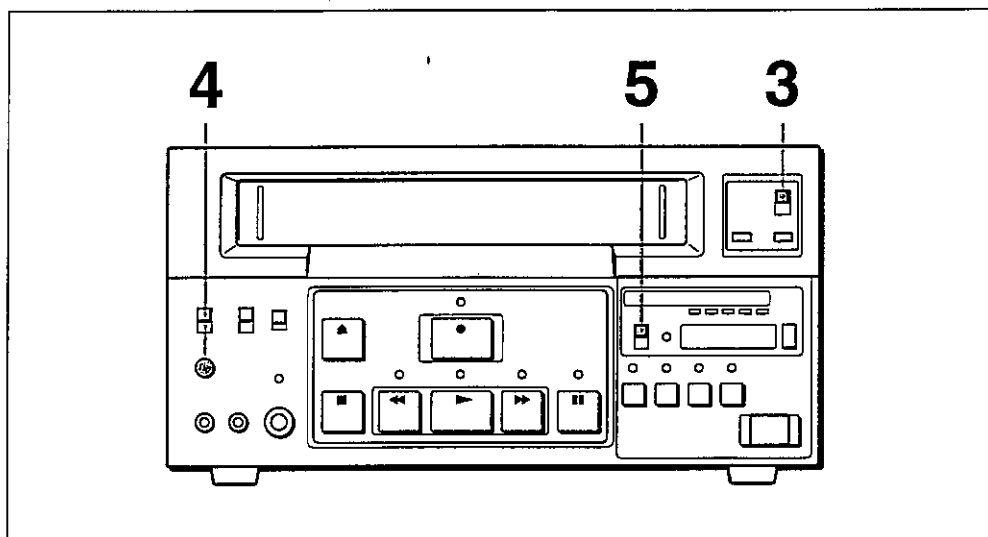
### Handling and storage of cassettes

- Do not store a cassette in a place subject to direct sunlight, high humidity or excessive dust, or near heat sources, air ducts or magnetic field.
- After use, rewind the tape evenly on the supply reel to avoid damaging the tape.
- Store the cassette in a case and keep it in a vertical position.
- Do not drop the cassette and avoid subjecting it to mechanical shock.



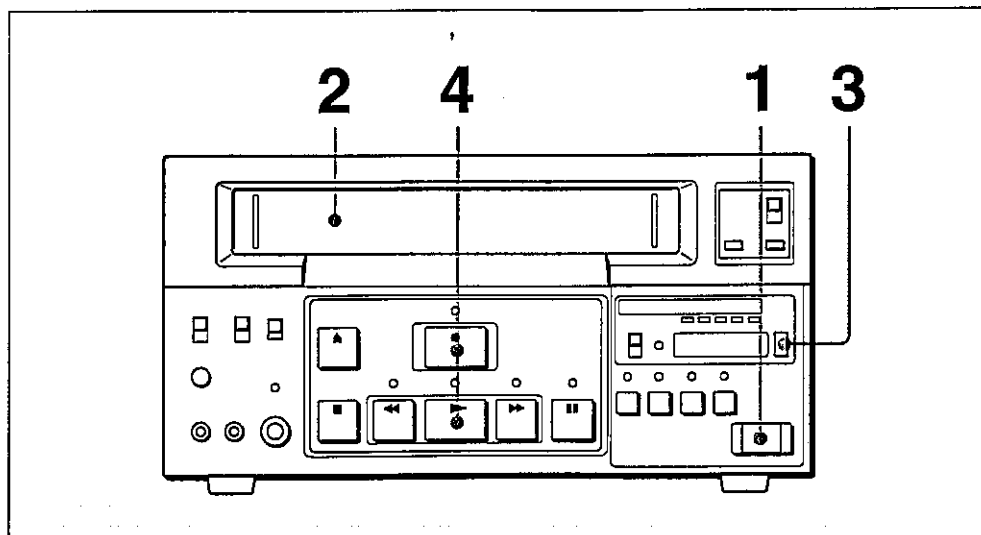
# Recording

## Preparations



- 1** Perform the necessary connections.
- 2** Turn on the power of the video monitor.
- 3** Set the PROGRAM switch on the recorder to OFF.
- 4** Set the TRACKING control to FIXED.
- 5** Set the CTL/MENU switch to CTL.

## Operation



- 1** Press the POWER switch to turn on the power of the recorder.
- 2** Insert a cassette.
- 3** Press the RESET button.  
The time counter shows "0:00:00."
- 4** Press the PLAY ► button while pressing the REC ● button.  
Recording begins.

### Regarding a cassette

Be sure to check the tab on the bottom of the cassette is in place before inserting it in the recorder. **Recording mode cannot be activated with a cassette without the tab.**

## Audio recording

When an audio signal is connected to the AUDIO IN CH-1/L and CH-2/R connectors on the rear panel, it is recorded along with video. Set the Hi-Fi switch on the front panel to determine whether to record normal audio only or to record hi-fi audio as well.

Audio to be recorded	Hi-Fi switch setting
To record normal audio only	OFF
To record both normal audio and hi-fi audio	ON

### Recording with a microphone

By connecting a microphone to the MIC connector on the front panel, necessary information can be recorded as voice memos. The voice is recorded on the track of normal audio channel 1. The recording level is automatically adjusted to the optimum value. During recording with a microphone, the indicator above the MIC connector lights in response to voice input.

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### To stop the tape momentarily

Press the PAUSE **||** button. To resume recording, press the PAUSE **||** button again. (This operation can be controlled from a distance when a remote control unit or a foot switch has been connected.)

#### Long pause mode

If the pause mode continues for more than about 5 minutes, the tape around the head drum automatically slackens to protect the video head and the tape. This is called "long pause mode." To release the long pause mode, press the PAUSE **||** button. Recording is immediately resumed.

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### When recording is finished

Press the STOP **■** button.

#### If the recording is done to the end of the tape

Recording stops and the cassette is automatically ejected.

This automatic eject can be inhibited through a menu operation. For details, see "Menu Operations" (page 40).

---

### If the tape does not run by pressing any of the operation buttons

- 1** Press the EJECT **▲** button to take out the cassette.
- 2** Turn the reel in the direction of the arrow on the bottom of the cassette until the leader tape is completely taken up.
- 3** Insert the cassette again.  
If the cassette cannot be ejected, or if the tape transport buttons are not effective after above operation, consult your nearest Sony service facility.

## To Find the Starting Point of Recording — Blank Search

The beginning of the unrecorded portion on a tape on which several images have been already recorded can be easily located, so that you may continue recording from that point. Insert the cassette in the compartment and press the BLANK button. The recorder operates as follows.

- 1** Search mode in the forward direction is activated and the BLANK lamp lights.
- 2** When a blank portion cannot be located within about 10 seconds, fast forward mode is activated to continue searching for the blank portion.
- 3** When a blank portion is detected, search mode in the reverse direction is activated to locate the beginning of the blank portion.
- 4** When the beginning of the blank portion is located, slow search mode in the forward direction is activated and then the tape stops at the beginning of the blank portion in pause mode. The BLANK lamp lights.  
If the beginning of the blank portion cannot be located, the tape rewinds to the beginning and blank search mode is automatically released.

### To cancel blank search mode

Blank search mode is automatically canceled when the search reaches the end of tape. To cancel the mode on the middle of a tape, press any of the tape transport buttons.

## To View the Picture Being Recorded

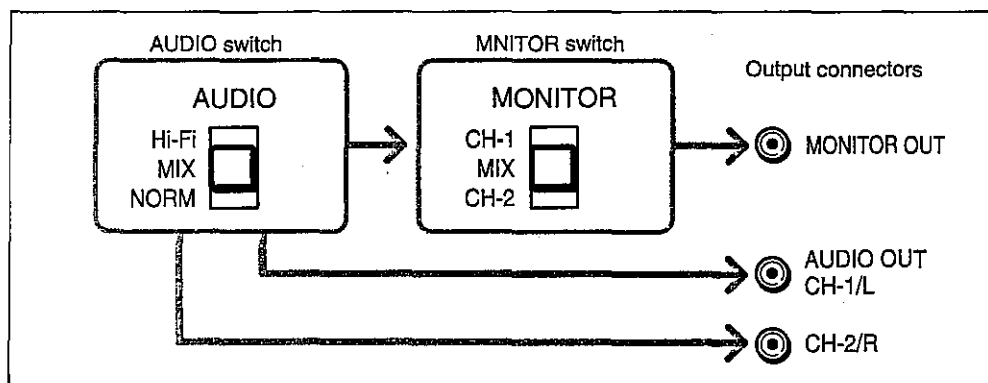
While recording, the picture being recorded can be seen on a monitor screen. Connect a video monitor to one of the VIDEO IN connectors on the rear panel. The loop-through output function provides high-resolution pictures.

### Automatic recording level adjustment

The built-in AGC circuit automatically adjusts the video recording level to the optimum value.

## To Monitor the Sound Being Recorded

Select the sound to be monitored with the AUDIO switch and the MONITOR switch.



### AUDIO switch settings

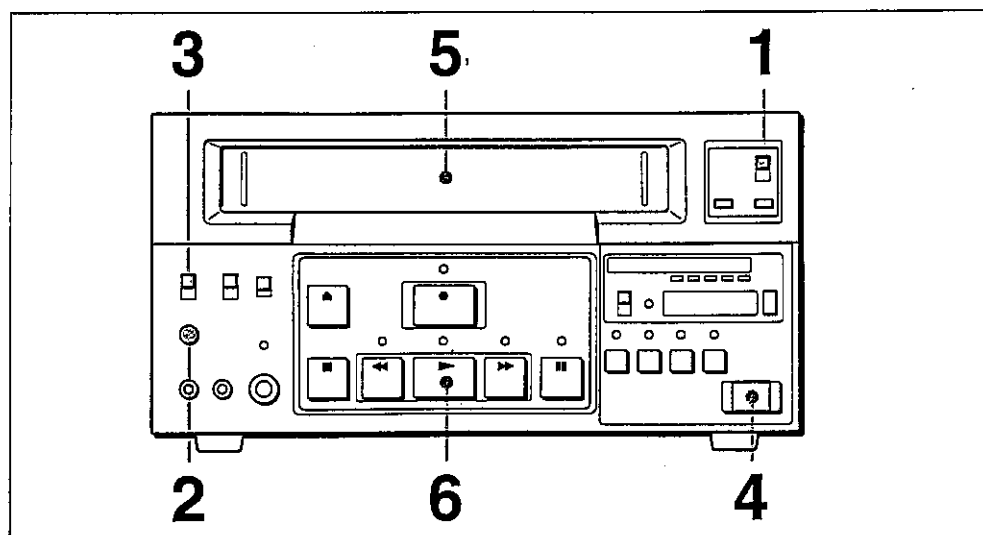
Sound to be monitored	Switch settings
To monitor hi-fi audio channel 1 and channel 2 individually	Hi-Fi
To monitor normal channel 1 and channel 2 individually	NORM
To monitor channels 1 and 2 simultaneously. (Hi-fi channels 1 and 2 are provided from the CH-1/L connector and normal audio channels 1 and 2 are provided from the CH-2/R connector.)	MIX

### MONITOR switch settings

Channel to be monitored	Switch setting
Channel 1 only	CH-1
Both channels 1 and 2	MIX
Channel 2 only	CH-2

- The MONITOR switch has no effect on the audio output from the AUDIO OUT CH-1/L and CH-2/R connectors.

## Operation



**1** Set the PROGRAM switch of the recorder to OFF.

**2** Set the TRACKING control to FIXED.

**3** Set the MONITOR switch to:

<b>MIX</b>	for normal monitoring
<b>CH-1</b>	when monitoring only the sound of channel 1.
<b>CH-2</b>	when monitoring only the sound of channel 2.

- This switch has no effect on outputs to the AUDIO OUT CH-1/L and CH-2/R connectors.

**4** Turn on the power.

**5** Insert the cassette to be played back.

**6** Press the PLAY ► button.  
Playback begins.

### To stop playback

Press the STOP ■ button.

### To stop the tape momentarily

Press the PAUSE || button. The tape stops and a still picture appears on the monitor screen.

To resume playback, press the PAUSE || button again or the PLAY ► button.

- **If pause mode continues for about 5 minutes**, the recorder automatically enters long pause mode. The still freeze function permits a stable still picture to be seen even in long pause mode.

Press the PAUSE || button to release long pause mode.

## **Playback (continued)**

### **When the tape is played back to the end**

It automatically rewinds to the beginning and then stops.

### **If snow or streaks may appear on the picture**

Slowly turn the TRACKING control clockwise or counterclockwise until the best possible picture is obtained.

- When the playback of this particular tape is finished, be sure to return the TRACKING control to the FIXED position.

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## **To obtain a noiseless still picture**

Press the FREEZE button during playback. You will get a clear still picture without noise on the screen.

One push of the FREEZE button shows a frame-freeze picture, the second push of the button shows a first-field picture and the next push shows a third-field picture. Thus, each time the button is pressed, these three freeze pictures are cyclically displayed.

The picture to be displayed at the first push of the FREEZE button can be selected from frame freeze picture and field-freeze picture, as desired. For details, see "Menu Operations" (page 40).

### **To cancel freeze mode**

Hit any of the tape transport buttons other than the FREEZE button.

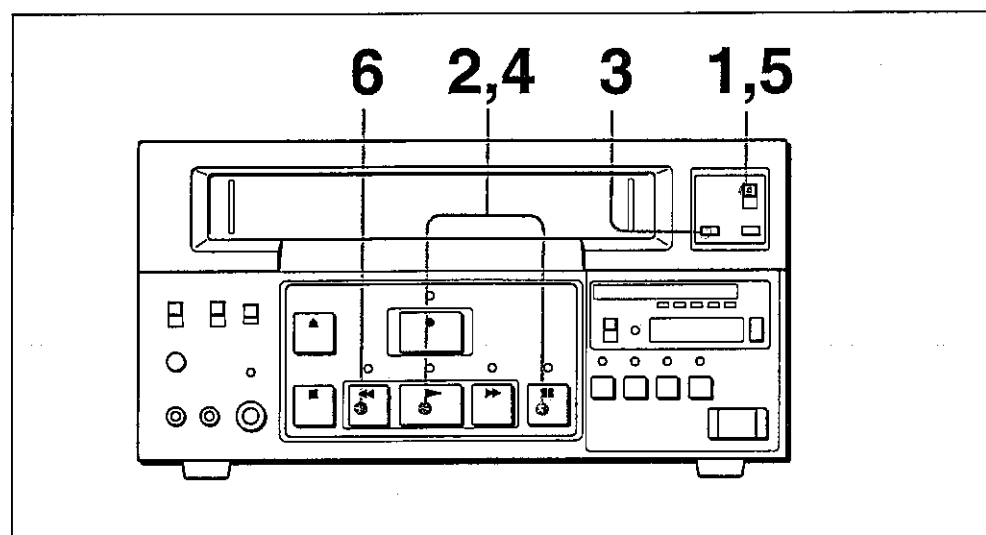
### **Freeze picture during search or pause**

When the FREEZE button is pressed during search or pause, the tape runs in the reverse direction from that point for about 2 seconds and playback mode is activated. Playback continues to the point where the button was pressed and then the freeze picture for that point is displayed. In both cases, the tape stops at the point immediately after the freeze picture.

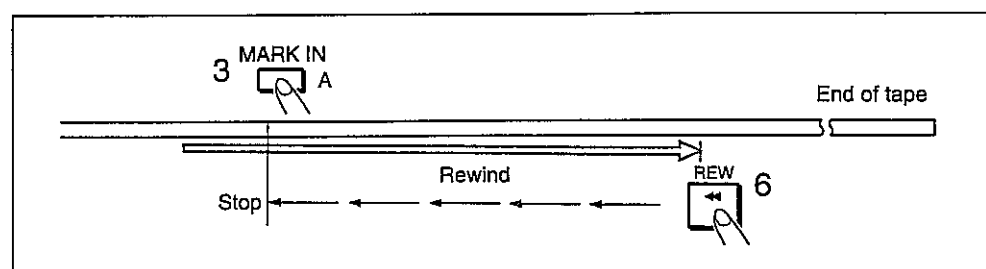
## Programmed Operation

Using the MARK IN A and B buttons and the PROGRAM switch, you can quickly locate a desired point or repeatedly play a particular portion.

### To quickly return to a desired point



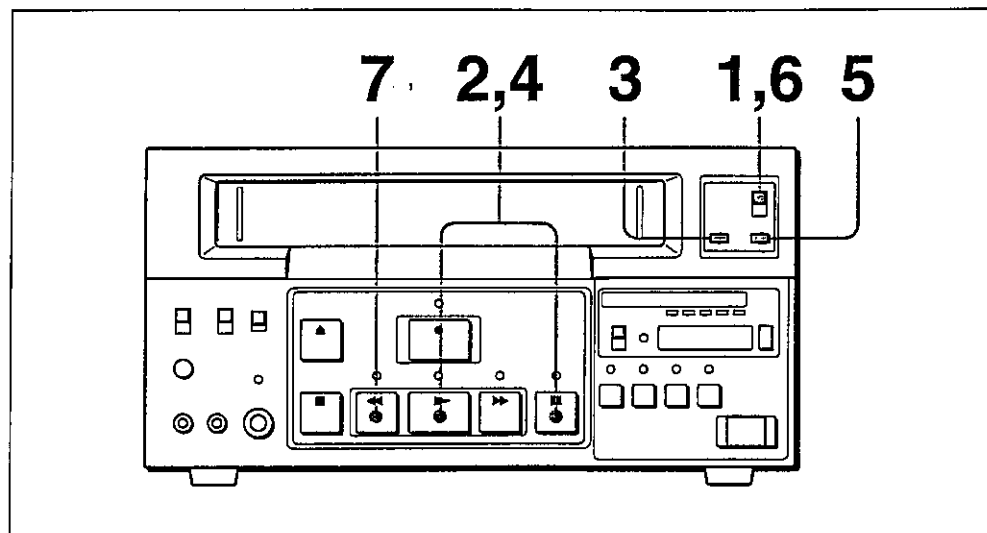
- 1** Set the PROGRAM switch to OFF.
- 2** Play the tape and stop it at the desired point momentarily.
- 3** Press the MARK IN A button.  
The desired point will be memorized.
- 4** Press the PLAY ► button or the PAUSE || button to resume the playback.
- 5** Set the PROGRAM button to  $\rightarrow \hat{A} \leftarrow$ .
- 6** Press the REW ◀◀ button.  
The tape will stop at the point memorized on the MARK IN A button.





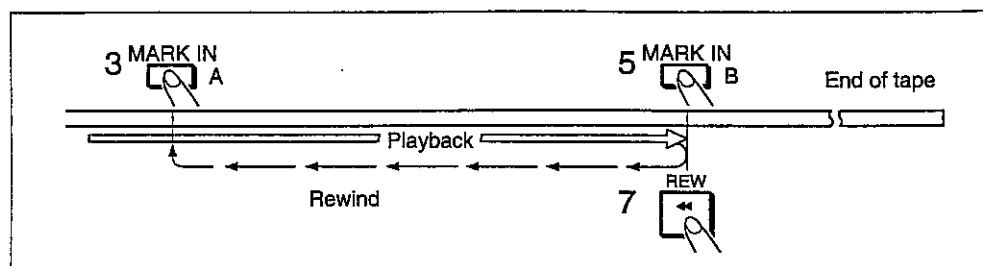


## Playback (continued)


### To repeat a desired portion




- 1** Set the PROGRAM switch to OFF.
- 2** Play the tape and stop it momentarily at the point from which the playback is to be started.
- 3** Press the MARK IN A button.
- 4** Search for a point where the playback is to be stopped and stop the tape momentarily at that point.
- 5** Press the MARK IN B button.
- 6** Set the PROGRAM switch to .
- 7** Press the REW  button.  
The portion between the points memorized on the MARK IN A and B buttons is repeatedly played back.



### To check the memorized points

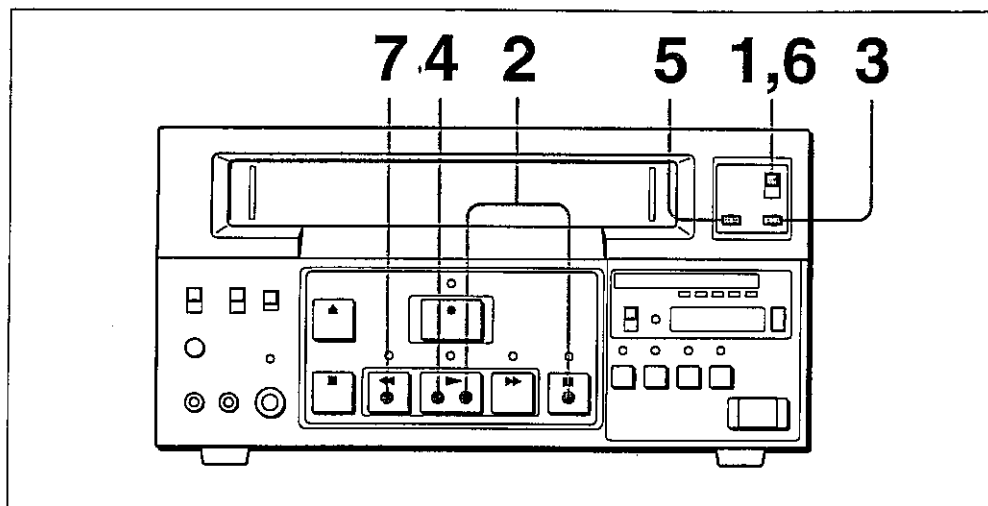
- 1** Press the STOP ■ button to stop the tape.
- 2** Set the PROGRAM switch to .
- 3** Press the MARK IN A or B button.  
The memory on that button will be displayed on the time counter while pressing the button.


### To display the time between two particular points designated for a repeat playback

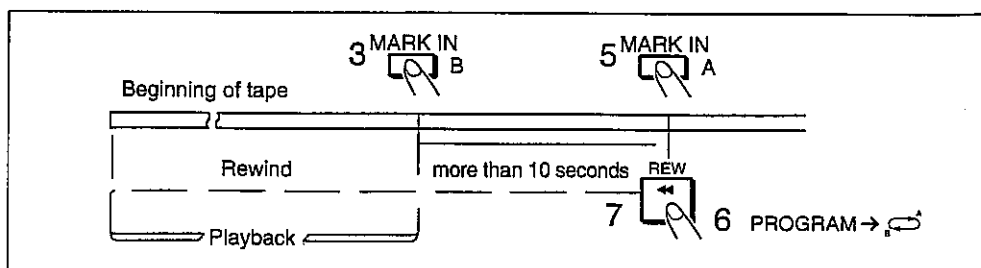
- 1** Stop the tape with the STOP ■ button.
- 2** Set the PROGRAM switch to .
- 3** Press the MARK IN A and B buttons simultaneously.  
While the buttons are pressed, the time between the designated points will be displayed on the time counter.

## Playback (continued)

To repeat between the beginning of a tape and a particular point



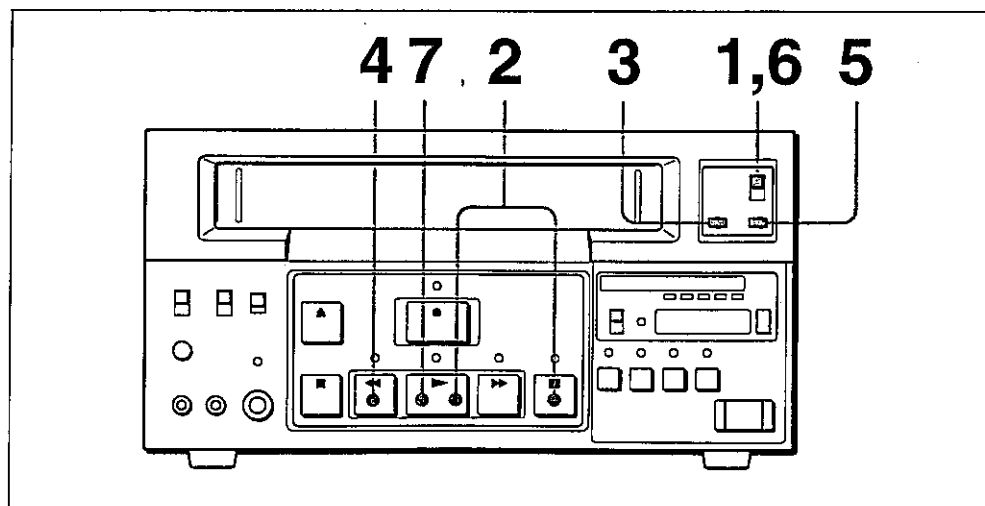
- 1** Set the PROGRAM switch to OFF.
- 2** Search for a point where the playback is to be stopped and stop the tape momentarily at that point.
- 3** Press the MARK IN B button.
- 4** Press the PLAY ► button. After playing the tape for more than 10 seconds, stop the tape momentarily.
- 5** Press the MARK IN A button.\*
- 6** Set the PROGRAM switch to .
- 7** Press the REW ◀◀ button.  
The tape rewinds to the beginning and the unit enters the playback mode. Then, the designated portion to the point memorized on the MARK IN B button is repeatedly played back.



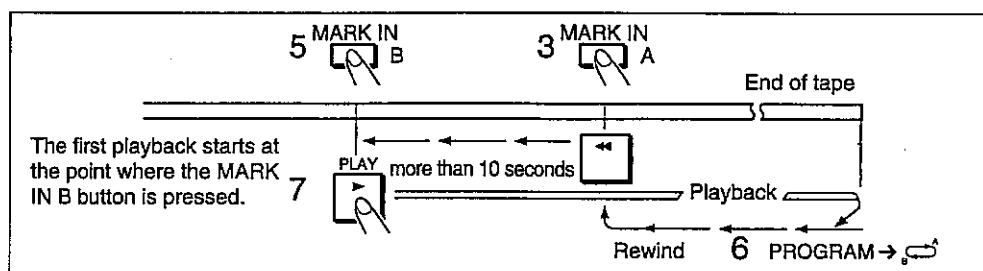
### \* Why must the MARK IN A button be pressed?

If a point before the one memorized on the MARK IN B button has been memorized on the MARK IN A button, the desired portion cannot be repeatedly played back. To avoid this, a point after the desired end point must be memorized on the MARK IN A button.

To repeat between a particular point and the end of the tape



- 1** Set the PROGRAM switch to OFF.
- 2** Search for a point where the playback is to begin and stop the tape momentarily at that point.
- 3** Press the MARK IN A button.
- 4** Press the REW ◀◀ button to rewind the tape for more than 10 seconds, then stop the tape momentarily.
- 5** Press the MARK IN B button.\*
- 6** Set the PROGRAM switch to  $\text{B} \rightarrow \text{A}$ .
- 7** Press the PLAY ▶ button.  
The tape is played back to the end and rewinds to the point memorized on the MARK IN A button, and the playback of the portion from that point to the end of the tape is repeated.



**\* Why must the MARK IN B button be pressed?**

If a point after the one memorized on the MARK IN A button has been memorized on the MARK IN B button, the desired portion cannot be repeatedly played back. To avoid this, a point before the desired point must be memorized on the MARK IN B button.

## Playback (continued)

### To stop the repeat playback

Press the STOP ■ button.

### When the programmed operation is finished

Be sure to return the PROGRAM switch to OFF.

### MARK IN A and B buttons

The MARK IN A and B buttons can also be used during playback.


### Memory backup function

The last memories on the MARK IN A and B buttons and the last time counter display will be maintained even if the power is turned off. If you perform a memorizing operation and turn off the power within 15 seconds after the power was turned on, the data in memory will not be retained.

### To erase the memory

You can memorize only one point for each MARK IN A or B button.

If the button is pressed several times, only the last point will be memorized.

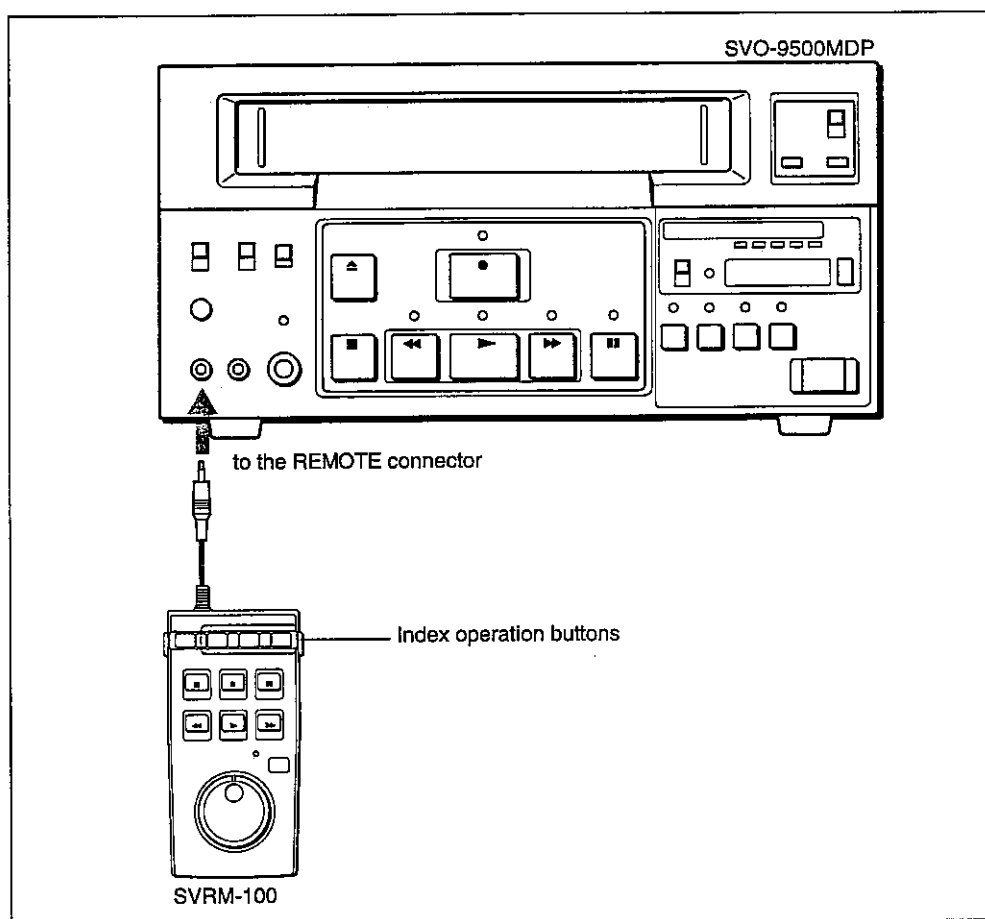
When the RESET button is pressed with the PROGRAM switch set to OFF or , the data are erased from memory and the "0:00:00" point will be memorized on both buttons.

## Index Operation (VISS) VISS: VHS Index Search System

By detecting an index signal recorded on a tape, a specific program can easily be located. The index operation is performed on the SVRM-100 remote control unit (optional) connected to the recorder. **Note that the index operation is not possible only with the recorder.**

### To mark index signals

The index signals can be either automatically or manually marked. Automatic marking mode is selected at the factory. To change the mode, see "Menu Operations" (page 40).



#### Automatic marking

Press the STOP ■ button to set the recorder to stop mode. When recording is started by simultaneously pressing the REC ● button and PLAY ► button in this status, an index signal for 2.1 seconds is automatically marked at the starting point of recording.

No index signal is marked when recording is started from pause mode.

## Playback (continued)

### Manual marking

When manual marking mode is selected through a menu operation, mark index signals as follows.

**When the recorder is in recording or playback mode,** press the MARK button on the remote control unit. The MARK indicator on the recorder blinks and an index signal is marked for about 2.1 seconds. When marking is completed, the MARK indicator goes off.

**When the recorder is in stop or pause mode,** the MARK indicator lights up when the MARK button is pressed to show that the recorder is in marking standby mode. When the recorder is set to recording or playback mode, the MARK indicator starts blinking and an index signal are marked for about 2.1 seconds. When marking is completed, the MARK indicator goes off. If the recorder is set to modes other than recording or playback, marking standby mode is cancelled.

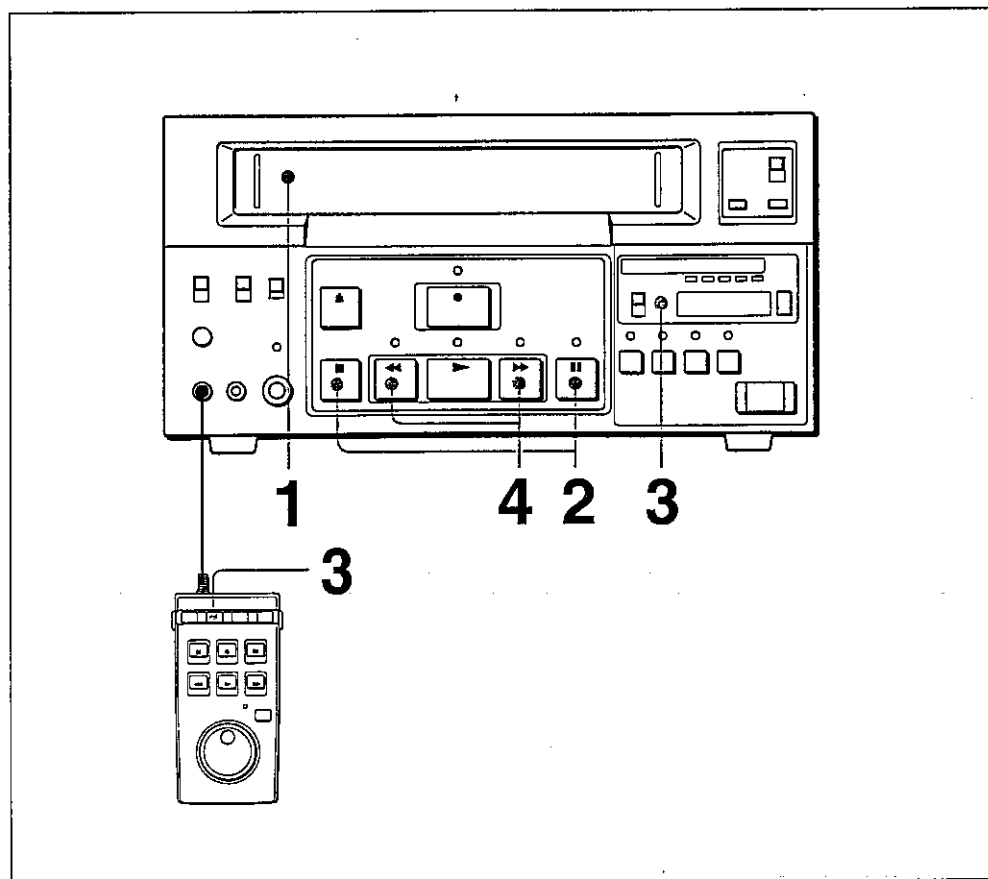
### You cannot mark any index signal:

- when using a cassette without its safety tab. (Nor can you erase the recorded index signals on the tape.)
- on an unrecorded portion of a tape

### Notes on marking index signals

- Mark an index signal more than 2 or 3 minutes before or after the previous index signal so that the recorder can detect it correctly.
- While an index signal is being marked during playback, the sound is not heard, but it will not be erased.

## To find the desired picture — Index scan



- 1** Insert a cassette with index signals marked.
- 2** Set the recorder to stop or pause mode.
- 3** Press the INDEX button on the remote control unit.  
This activates index scan mode, and the INDEX indicator on the recorder lights up.
- 4** To scan previous programs, press REW ◀◀ button.  
To scan programs ahead, press F FWD ▶▶ button.  
Upon finding an index signal, the recorder plays back the tape for approximately 10 seconds and then starts to search for the next index signal.  
Repeat the above procedure up to the beginning or the end of the tape.

### To release index scan mode

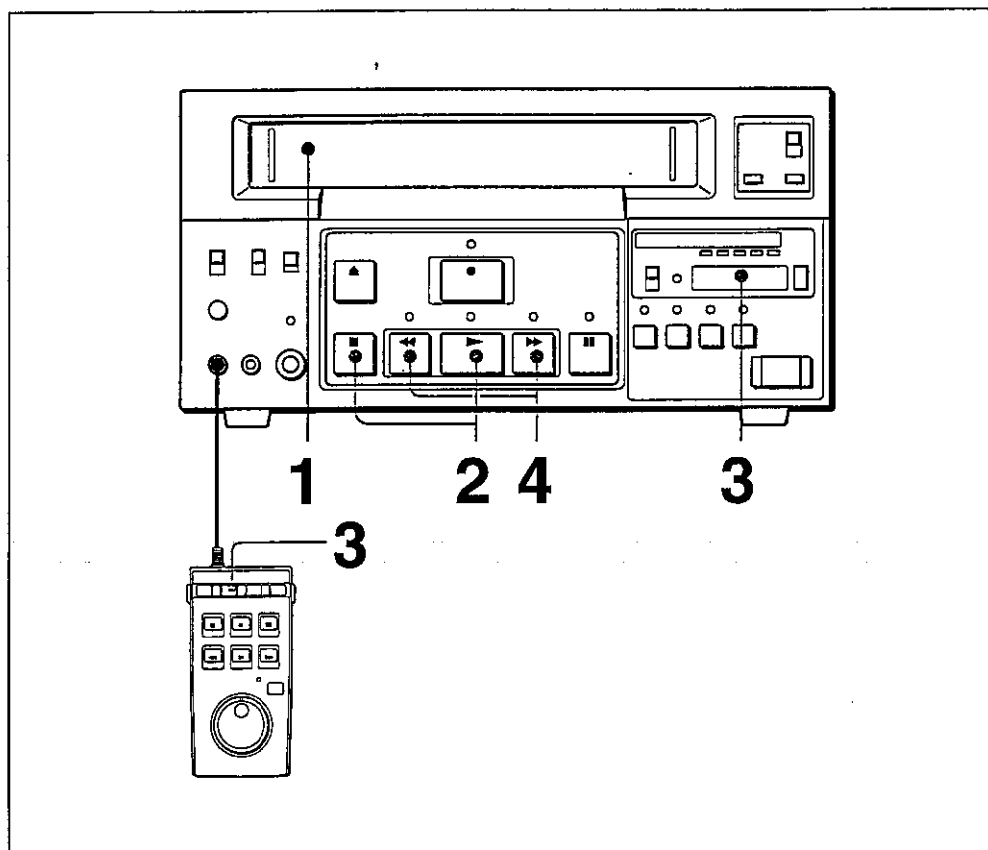
When the tape is scanned up to the beginning or the end, index scan mode is automatically released and the INDEX indicator goes off.

To release the mode in the middle of a tape, press a tape transport button other than the F FWD ▶▶ or REW ◀◀ button.



## Playback (continued)

### To find the desired picture by specifying with a number — Index search



- 1** Insert a cassette with index signals marked.
- 2** Set the recorder to stop or playback mode.
- 3** Press the INDEX button the number of time there are index signals between the desired point and the current point on the tape (backward or forward).  
Up to 39 numbers can be designated. The designated number is displayed on the time counter.
- 4** To locate a picture before the current point on the tape, press the REW ◀◀ button.  
To locate a picture after the current point, press the F FWD ▶▶ button.  
Every time an index signal is detected, the number on the time counter decreases by one.  
When the number reaches 0, playback begins.

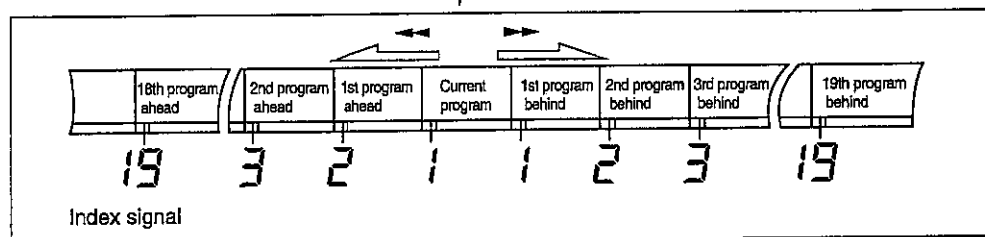
#### To release index search mode

When the tape is searched up to the beginning or the end, index search mode is automatically released and the INDEX indicator goes off.

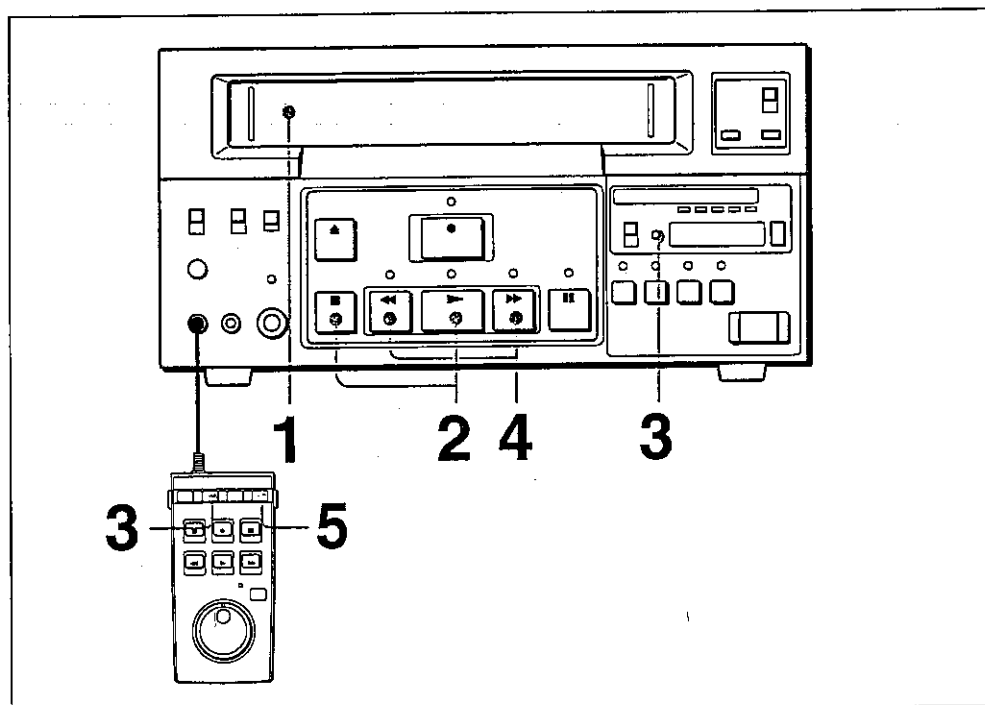
To release the mode in the middle of a tape, press a tape transport button other than the F FWD ▶▶ or REW ◀◀ button.

### How to designate the index number in index search operation

To search for a picture before the current point on the tape, the current point is counted as 1.



### To erase undesired index signals



- 1** Insert a cassette with index signals marked.
- 2** Set the recorder to stop or playback mode.
- 3** Press the INDEX button on the remote control unit.  
The INDEX indicator on the recorder lights.
- 4** To erase the index signal before the current point, press the REW ◀◀ button.  
To erase the index signal after the current point, press the F FWD ▶▶ button.  
When an index signal is detected, the recorder enters in playback mode.
- 5** Check the picture while it is being played back and when you want to erase the index signal, press the ERASE button on the remote control unit.  
The index signal is erased and the recorder searches for the next index signal.

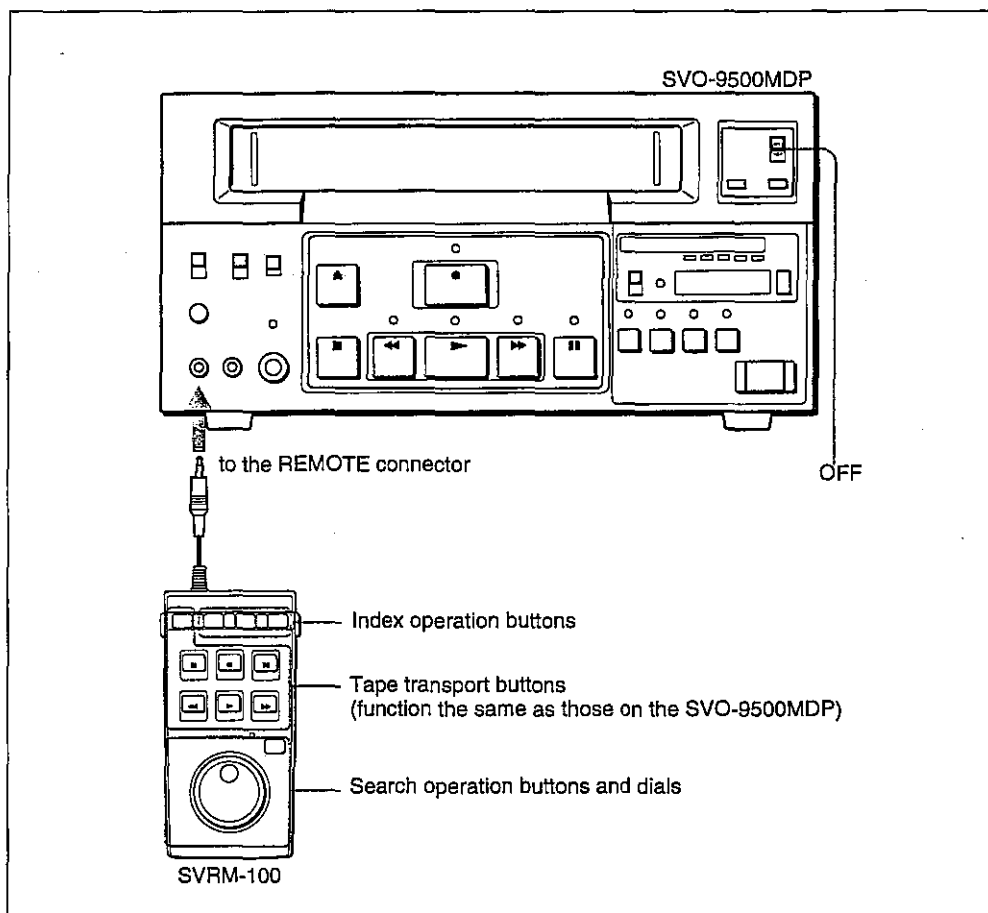
While the index signal is being erased, the sound is not heard but will not be erased.

# Remote Control Operation

## Using a Remote Control Unit SVRM-100

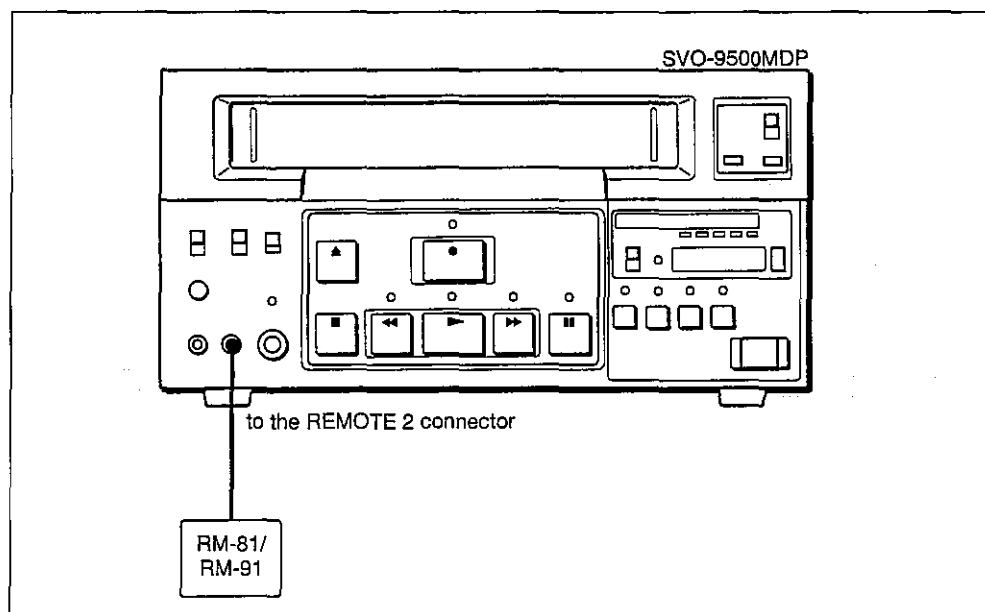
The SVO-9500MDP can be remotely controlled from the SVRM-100 remote control unit (optional). With the SVRM-100, index operation and search operation and jog/shuttle search operations using search dials are possible. The buttons on the SVRM-100 which correspond to those on the recorder function the same.

- To use the SVRM-100, be sure to set the PROGRAM switch of the recorder to OFF.



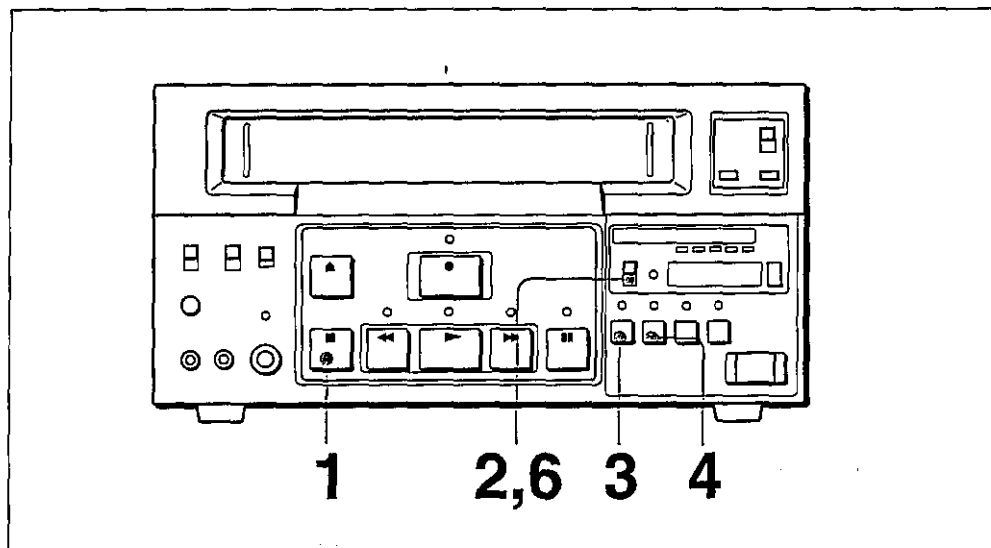
## Using a Remote Control Unit RM-81/RM-91

Recording and playback can be started and stopped from the RM-81/RM-91 remote control unit (optional). For details on operations, refer to the instructions for the remote control unit. The operation modes of the remote control unit can be changed through a menu operation. For details, see "Menu Operations" (page 40).



# Menu Operations

Operation modes of the recorder can be set as follows.



- 1** Set the recorder to stop mode.
- 2** Set the CTL/MENU switch to MENU.  
The items which can be set are displayed on the time counter block. (See the next page.)
- 3** Press the ITEM button to select the item to be set.
- 4** Press the DATA button to set the data for the selected item.
- 5** Repeat steps 3 and 4 for the necessary items.
- 6** Set the CTL/MENU switch to CTL.  
The data specified in steps 3 and 4 are now stored.

Set item	Display	Set data
VISS operation mode	UIA- <input type="checkbox"/> On -OF	To automatically mark VISS index signals. To manually mark VISS index signals.
Foot switch operation mode	FOL- <input type="checkbox"/> LE -LL -HE	To use the low edge of a pulse as the trigger. To turn on/off at the lower level of a pulse. To use the high edge of a pulse as the trigger.
Tape end operation mode	LPE- <input type="checkbox"/> RE -SE <input type="checkbox"/> EE	To automatically rewind the tape from the end in recording mode. To automatically stop the tape at the end in recording mode. To automatically eject the cassette at the end of the tape in recording mode.
S-VHS recording selection	5uH- <input type="checkbox"/> AL -OF	To automatically record on an S-VHS tape with the S-VHS system and on a VHS tape with the VHS system. To record on both S-VHS and VHS tape with the VHS system.
Digital CNR ON/OFF	Enr- <input type="checkbox"/> On -OF	To turn on the digital chroma noise reducer. To turn off the digital chroma noise reducer.
Digital YNR ON/OFF	Ynr- <input type="checkbox"/> On -OF	To turn on the digital luminance noise reducer. To turn off the digital luminance noise reducer.
Digital Y enhancer ON/OFF	YEn- <input type="checkbox"/> On -OF	To turn on the digital enhancer. To turn off the digital enhancer.
Freeze mode selection	FrE- <input type="checkbox"/> Fr -Fi	To initially display a frame freeze picture. To initially display a field freeze picture.

☐ : Factory setting

# Specifications

## System

Signal system	PAL color, CCIR standards
Recording system	Rotary 2-head azimuth recording, VHS format
Luminance	FM recording
Color	Converted subcarrier phase shift recording

## Video

Inputs	VIDEO IN (BNC type) $\times 2$ for a bridging connection 1.0 Vp-p $\pm 0.5$ Vp-p, 75 ohms, unbalanced, sync negative S VIDEO IN (4-pin mini DIN) $\times 2$ for a bridging connection Luminance: 1.0 Vp-p, 75 ohms, unbalanced Color: 0.3 Vp-p, 75 ohms, unbalanced
Outputs	VIDEO OUT (BNC type) $\times 1$ 1.0 Vp-p $\pm 0.2$ Vp-p, 75 ohms, unbalanced, sync negative S VIDEO OUT (4-pin mini DIN) $\times 1$ Luminance: 1.0 Vp-p, 75 ohms, unbalanced Color: 0.3 Vp-p, 75 ohms, unbalanced
Horizontal resolution	More than 240 TV lines (VHS) More than 400 TV lines (S-VHS)
S/N	45 dB (VHS)
Recording level control	Automatic

## Audio

Tracks	4 tracks (hi-fi: 2, normal: 2)
Inputs	AUDIO IN CH-1/L, CH-2/R (phono jack) $\times 1$ each -10 dBs (0 dBs = 0.775 V), 47 kilohms, unbalanced MIC (phone jack) $\times 1$ -60 dBs (0 dBs = 0.775 V), 3 kilohms, unbalanced
Outputs	AUDIO OUT CH-1/L, CH-2/R (phono jack) $\times 1$ each -10 dBs (0 dBs = 0.775 V) (47-kilohm load), unbalanced MONITOR OUT (phono jack) $\times 1$ -5 dBs (0 dBs = 0.775 V) (47-kilohm load), unbalanced
S/N	More than 43 dB (with normal audio at 3% distortion)
Frequency response	50 to 12,000 Hz (with normal audio) 20 to 20,000 Hz (with hi-fi audio)
Dynamic range	More than 90 dB (with hi-fi audio)
Recording level control	Limiter system

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## Other functions

Search	Possible (still, 5 times normal speed in both forward and reverse directions) With SVRM-100: still or picture search with $\frac{1}{10}$ to 10 times normal speed in both forward and reverse directions
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## Tape transport

Tape speed	23.39 mm/sec.
Recording and playback time	Approx. 180 minutes (with E-180)
Fast forward and rewind time	Within 2.5 minutes (with E-180)
Usable tape	Standard VHS tapes

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## General

Power requirements	220/240 V AC $\pm 10\%$ , selectable 50/60 Hz $\pm 10\%$ , 220 V: 0.33 A 240 V: 0.3 A
Power consumption	72 VA
Operating position	Horizontal
Storage temperature	$-20^{\circ}\text{C}$ to $+60^{\circ}\text{C}$ ( $-4^{\circ}\text{F}$ to $+140^{\circ}\text{F}$ )
Operating temperature	$5^{\circ}\text{C}$ to $40^{\circ}\text{C}$ ( $41^{\circ}\text{F}$ to $104^{\circ}\text{F}$ )
Dimensions	$270 \times 132 \times 366$ mm (w/h/d) ( $10\frac{3}{4} \times 5\frac{1}{4} \times 14\frac{1}{2}$ inches) not including projecting parts and controls
Weight	Approx. 10 kg (22 lb 1 oz)
Supplied accessory	Operating instructions (1)

Design and specifications are subject to change without notice.

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## Optional accessories

SVRM-100 Remote control unit (for the front REMOTE connector)  
SVAC-100 indicator unit  
SVBK-100 33-pin interface board  
SVBK-110 34-pin interface board  
SVBK-120 RS-232C interface board  
RM-81/RM-91 Remote control unit (for the front REMOTE 2 connector)

### Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.



# Troubleshooting

Should you have a problem on your recorder, first check the three items in Check 1 and then the appropriate item in Check 2 or Check 3.

## CHECK 1

- 1** Check that the AC power cord is firmly connected. (See page 16.)
- 2** Check that the POWER switch is set to ON.
- 3** Check the connections. (See page 16.)

## CHECK 2

Symptoms	Possible causes and corrective actions	Page for ref.
AUTO OFF lamp lights and function buttons do not function.	Moisture has condensed inside the unit. Keep the power on and wait until the lamp goes off indicating that the moisture has evaporated.	45
The tape suddenly stops and function buttons do not function.	Eject the cassette and take up the leader tape manually.	18
The cassette cannot be ejected.	Turn off the recorder and contact your nearest Sony facility.	18

## CHECK 3

Symptoms	Corrective actions	Page for ref.
A cassette cannot be inserted.	• Insert the cassette correctly.	18
	• Check whether another cassette has already been inserted.	18
	• Check whether the AUTO OFF lamp is lit.	45
The tape does not run when any of the function buttons is pressed. Recording cannot be done.	• Check that the REC lamp is lit.	—
	• Check that the safety tab on the rear of the cassette is in place.	19
	• Check that the PROGRAM switch is set at OFF.	—
Snow or streaks appear on the playback picture.	• Adjust the TRACKING control.	26
	• Clean the video head.	45

### Moisture condensation

When the unit is moved directly from a cold place to a warm place, or when the unit is operated in a place with high humidity, moisture may condense inside the unit. If the tape runs in this condition, it may adhere to the head drum or the tape guide and be damaged. To prevent this possibility, the unit is equipped with a moisture detector. The AUTO OFF lamp lights to indicate that moisture has been detected inside the unit. When this lamp is lit, the cassette is automatically ejected, if it is inserted, and the unit does not function, even if any of the function buttons is pressed.

- When the unit is first moved to place in which it is subjected to condensation, we **recommend you to wait for about ten minutes and to turn the power on** so that the moisture detector will operate.

## Video Head Cleaning

### If the picture temporarily disappears or if snow or noise show up in the picture

The video head may be contaminated and should be cleaned. Use the optional cleaning cassette and perform cleaning as follows.


- 1 Remove the cassette being played.
- 2 Insert the cleaning cassette in the same manner as standard cassettes.
- 3 Press the RESET button to set the time counter to "0:00:00."
- 4 Press the PLAY ► button and the REC ● button simultaneously.
- 5 When the time counter indication reaches "0:00:30," press the STOP ■ button to stop the tape.
- 6 Remove the cassette.

### Notes

- **Do not run a cleaning cassette for more than 30 seconds at a time.** Excessive use of the cleaning cassette will shorten the life of the heads.
- The tape counter does not function when no video signal is connected to the recorder. Count the time using a watch.
- Do not rewind the cleaning cassette every time it is used. Run the tape to its end, then rewind it.
- You can run through a cleaning cassette several times, although it does gradually become less effective.

### Video Head Replacement

If picture quality is still deficient after cleaning, the video heads may need to be replaced. The life of the heads is approximately **500 to 1000 hours of use**. With this unit, the accumulated operation time of the heads can be checked as follows.

- 1** Set the PROGRAM switch to .
- 2** Keep the RESET button depressed for amount 2 seconds.  
The total accumulated operation time of the head drum is now shown on the counter in 1-hour increments.

Regarding head replacement, please consult your Sony service facility.

## 17.7) Sony VCR error codes

(From: VCRMonthly (vcrmonthly@aol.com)).

Later Sony VCR's have "emergency" codes that show up in the Fluorescent Display on certain failures. The code shows up in the "seconds" position and they are as follows:

Code	Problem
00	Normal.
01	Abnormal Take-up reel rotation.
02	Abnormal Supply reel rotation.
03	Abnormal drum (head) rotation.
04	Abnormal forward cam motor rotation.
05	Abnormal reverse cam motor rotation.
06	Abnormal cassette loading.
07	Abnormal cassette unloading.

Play a tape until the VCR shuts off and then check the failure code to help diagnose the problem. These codes are cleared when AC is removed or when another function button is pushed.

Some Sony VCRs may use the error coding summarized below:

(From: J-S Ferreira (Gal@microtec.net)).

Error Code	Block	Problem
00		No error
01 - 09	Control motor (encoder)	Unable to detect the position
10	Mechanism	Loading not completed
11	(deck)	Unloading not completed
12	"	No eject
13	"	End sensor fault (take-up side)
14	"	End sensor fault (source side)
15	"	Dew detected
20	Drum	Drum motor won't rotate
21	"	Drum servo not locked
30	Capstan	Capstan motor won't rotate
31	"	Speed not locked
40	Reel	Take-up reel FG not locked
41	"	Source reel FG not locked
42	"	Measure abnormally ended (whatever this means)